

PROGRAM: Welding Technology

**PROGRAM
CIP CODE: 48.0500**

DESCRIPTION: The Welding Technology program is designed to prepare students for employment welding. The curriculum provides individuals with critical thinking, career development, life management, business, economic and leadership skills required for Welding Technology occupations. Welding Technology prepares individuals to apply technical knowledge and skills to join or cut metal surfaces. Includes instruction in arc welding, resistance welding, brazing and soldering, cutting, high-energy beam welding and cutting, solid state welding, ferrous and non-ferrous materials, oxidation-reduction reactions, welding metallurgy, welding processes and heat treating, structural design, safety, and applicable codes and standards.

RECOMMENDED PROGRAM SEQUENCE OF COURSES:

**Career
Preparation
Grades
11-12** The following describes the recommended courses developed from industry-validated skills necessary for initial employment or continued related education.

48.0500.10 Welding Technology Core Curriculum: Instruction includes career planning, preparing for employment, work-based learning, oral and written communication skills, understanding the role of small businesses and financial management, workplace leadership styles and leadership development. The program is designed and delivered as a coherent sequence of experiences using technical instruction, experiential learning, supervised occupational experience, leadership and personal development through the career and technical student organization.

-and-

48.0500.20 Welding Technology I: Prepares individuals to apply basic technical knowledge and skills to join or cut metal surfaces. Includes instruction in blueprint reading, arc welding, brazing soldering, cutting, safety, and applicable codes and standards.

-and-

48.0500.25 Welding Technology II: This course prepares individuals to apply advanced technical knowledge and skills using a variety of welding techniques and equipment. Instruction includes Welding and Cutting Theory, Inspection and Testing, Electrical Fundamentals, Drawing and Welding Symbols, Fabrication Principles and Practices and Safety.

And program may elect to add:

48.0500.75 Welding Technology - Internship: This course provides CTE students an opportunity to engage in learning through participation in a structured work experience that can either be paid or unpaid and does not necessarily require classroom instruction that involves the application of previously developed Welding Technology knowledge and skills.

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48.0500.80 Welding Technology - Cooperative Education: This course utilizes a cooperative education methodology to combine school-based and supervised work-based learning experiences directly related to the standards identified for the Welding Technology program.

TEACHER CERTIFICATION REQUIREMENTS FOR THE WELDING TECHNOLOGY PROGRAM

CAREER PREPARATION: The instructor must be vocationally certified according to the following table:

Welding Technology	CERTIFICATES	
	Types: BVT, SVT Approved Areas: ITE, VTT	Types: PVI, SVI, PCTI, SCTI No Approvals Necessary

Note:

- Welding Technology, 48.0500.70 may be a part of the sequence and the teacher must hold a Cooperative Education Endorsement (CEN).
- Teacher/Coordinator, 48.0500.75 is not required to have a Cooperative Education Endorsement (CEN).
- Teacher/Coordinator, 48.0500.80 is required to have a Cooperative Education Endorsement (CEN).

CERTIFICATE ABBREVIATIONS FOR THE WELDING TECHNOLOGY PROGRAM

Certificate Types		Approved Areas List	
BVT	Basic Vocational Education	ITE	Industrial Technology Education
PCTI	Provisional Career and Technical Education Industrial Technology	VTT	Vocational Trade and Technical Education
PVI	Provisional Vocational Industrial Technology		
SCTI	Standard Career and Technical Education Industrial Technology		
SVI	Standard Vocational Industrial Technology		
SVT	Standard Vocational Education		